PROJECT NAME: POLYGONS

PROJECT OBJECTIVES: main objective is to teach the topic to children in a way that they can learn the subject easily and intrestingly.

TEAM NAME: MATH-MECHANIXS

TEAM MEMBERS: 1.G.LIKHITHA

2.LAVANYA

3.SHALINI

4.SAGARIKA

5.SUPRATHIKA

6.JITENDRA

Under the guidance of TEAM SWECHA

ACKNWOLEDGEMENT

The success in this project would not have been possible but for the timely help and guidance rendered by many people. Our sincere thanks to all those who has assisted us in one way or the other for the completion of our project.

We express our gratitude to **TEAM SWCHA,** for teaching and giving guidance and proper ways and means by which we are able to complete this project. The evenging sessions gave more impact on our real life. We learn much from those impact session.

We thank all the members of Swecha Team, and also who have assisted me directly or indirectly for successful completion of this project.Finally, We sincerely thank our friends and teammates for their kind help and co- operation during our work.---- Likhitha.G

Lavanya

Shalini

Sagarika

Suprathika

Jitendra

INDEX PAGE

ABSTRACT

The project is aimed for the easy understanding of the topics like What are Polygons? , its types like opn and closed polygons What are quadrilaterals and how triangles and parallelograms defined from quadrilaterals .

The main objective is to teach the topic to children in the way that they can learn the subject in a comfort way with intresting the topic .For this purpose we created this project with an effective way that children will enjoy while learning.

The entire project has been developed keeping in view of children that's why we kept vedios and Quizes for every topic so that they can understand and clear with the topic with chooses in a easy manner. In the main page we shown the main topics and in every single page we kept the sub-topics foe better usage. By clicking on the topicit will redirect from main page to another page and in every single page again it will show the sub-topics by clicking on index of page.

In this way they will get the topic they need and can go through the content of topic .Learning the subject is very difficult for some

children. So we kept the vedios and images based on the topic. So,we think this way of learning will help them to learn a topic in a clear way.

Requirement Gathering

Requirement Gathering is the first step for this methodology for the project. On this phase, all requirements are gathered together so that all of the needed requirements can started, analyse and process. All the requirements will be analysed if it is suitable to develop the system.

DIVIDING TASKS:-

This is the second step which we have followed .We divide the tasks based on our interest and it helps the project to complete within time. We have updated all the tasks which we have to do, doing and done in gitlab. It helps to know our work progress.

MERGING OUR WORK:-

This is the Final step of project we all megerd our tasks that results our project. Then we all added the styles that gives the an effective look to project.We checked whether our code is working in a manner that we purposely did.

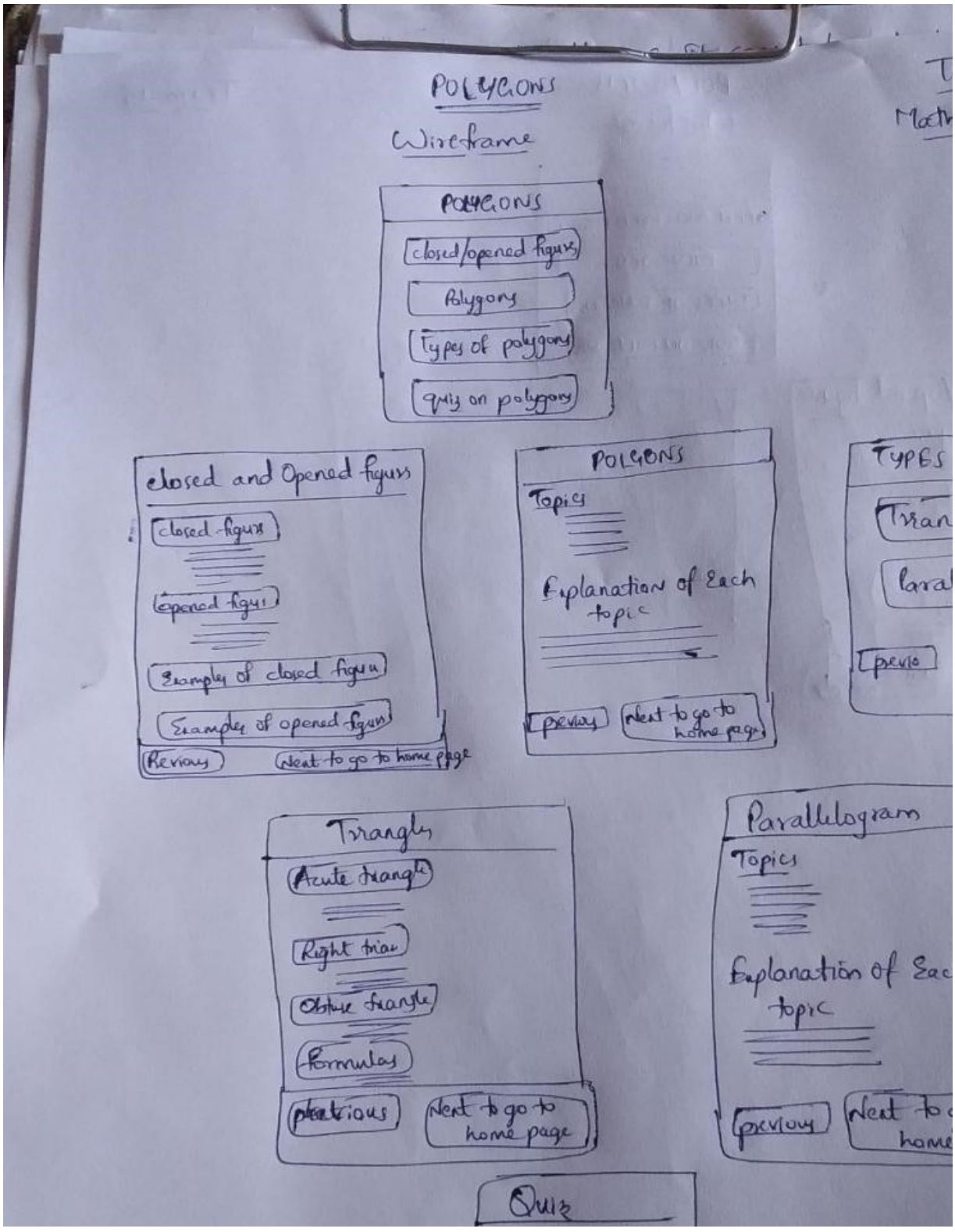
Requirements

HTML:-Hyper Text Markup Language (**HTML**) is a markup language for creating a webpage. Webpages are usually viewed in a web browser. They can include writing, links, pictures, and even sound and video. **HTML** is used to mark and describe each of these kinds of content so the web browser can display them correctly. In this project we used HTML for creating web pages which gives body to the page.

CSS:-CSS. Stands for "Cascading Style Sheet" . Cascading style sheets are used to format the layout of Web pages. In this project, we use CSS to create header and footer dvisions. Div is used to create and style the header and footer of each page. CSS is used in every page to have good look to the page.

JAVASCRIPT:-In this project javascript is used for redirecting pages to another page and getting the values entered by the user. JavaScript is a programming language used primarily by Web browsers to create a dynamic and interactive experience for the user. Most of the functions and applications that make the Internet indispensable to modern life are coded in some form of JavaScript .

Design(Wireframes)



Implementation

Home page:

Firstpage.html:

```
<!DOCTYPE html>
<html>
  <head>
    <title>First Page</title>
    <link rel="stylesheet" type="text/css" href="bootstrap\bootstrap.min.css">
    <script src="bootstrap\bootstrap.min.js"></script>
    <style>
.heading{
    color:#3498db;
    text-align:center;
    border: solid 5px cyan;
    border-radius:10px;
    font-size: 75px;
    height:125px;
    background-color:cyan;
    padding-top:10px;
    padding-bottom:10px;
    border-color:#3498db;
    margin-top:0px;
    }
h1{
```

```
    font-size: 50px;
    background-color: #3498db;
}

body{
    margin:0;
    padding:0;
}
.container{
    text-align: center;
    margin-top: 100px;
}
.btn{
     width:850px;
    height:150px;
    border: 1px solid #3498db;
    background: none;
    padding: 40px 50px;
    font-size: 50px;
    font-family: "montserrat";
    cursor:pointer;
    margin: 20px;
    transition: 0.8s;
    position: relative;
    overflow: hidden;

}
```

```
.btn1,.btn2,.btn3,.btn4{
    color: #3498db;
}
.btn1:hover,.btn2:hover,.btn3:hover,.btn4:hover{
    color: #fff;
}
.btn::before{
    content: "";
    position: absolute;
    left: 0;
    width: 100%;
    height: 0%;
    background: #3498db;
    z-index: -1;
    transition: 0.8s;
}
.btn1::before,.btn2::before,.btn3::before,.btn4::before{
    top: 0;
    border-radius: 0 0 50% 50%;
}
.btn1:hover::before,.btn2:hover::before,.btn3:hover::before{
    height:180%;
}
    </style>
  </head>

  <body>
```

```
    <h1 class="heading">--- POLYGONS ---</h1>
   <div class="container">
    <a href="index.html" ><button class="btn btn1">OPEN AND CLOSED FIGURES</button>
<br></a>
    <a href="POLYGON WEB PAGE.html" ><button class="btn btn2">POLYGONS</button>
<br></a>
    <a href="Types.html"><button class="btn btn3">TYPES OF POLYGONS</button>
<br></a>
<a href="quiz.html"><button class="btn btn3">QUIZ ON POLYGONS</button><br></a>
    </div>


  </body>
</html>
```

Open and closed.html:-

```
<!DOCTYPE HTML>
<html>
                <head>
                    <title>Open and Closed Figures</title>
                    <meta charset="utf-8" />
                    <meta name="viewport" content="width=device-width, initial-scale=1" />
                    <link rel="stylesheet" href="assets/css/main.css" />
      <style>
      .previous {
                     background-color: #2196F3;
                    color: white;
            font-size:25px;
                                        text-decoration:none;
```

```
                }

            .next {
             background-color: #2196F3;
            color: white;
        font-size:25px;
                                text-decoration:none;
            }
            .headi{
color:#3498db;
text-align:center;
border: solid 5px cyan;
border-radius:10px;
font-size: 75px;
height:125px;
background-color:cyan;
padding-top:10px;
padding-bottom:10px;
border-color:#3498db;
margin-top:0px;
}

          .a{
      display: block;
      margin-left: auto;
      margin-right: auto;
      width:300px;
```

```
        height:300px;
       }


                        .abc {
        text-decoration: none;
        display: inline-block;
        padding: 8px 16px;
        }

       .abc:hover {
        background-color: #ddd;
        color: black;
         }

</style>

          </head>
          <body>

   <div class="headi">
     <h1>Open and Closed Figures</h1>
   </div>
                    <section id="one" class="wrapper style2">


                              <div class="inner">
```

```
<div class="grid-style">

<div>
<div class="box">
<div class="image fit">
<img src="images/1.jpg" alt="" />
</div>
<div class="content">
<header class="align-center">

<h2>What is an open shape?</h2>
</header>
<p>
```

In geometry, an open can be defined as a shape or figure whose end do not meet. They do not start and end at the same point.

```
</p>
<footer class="align-center">
<a href="#kat" class="button alt">Open Figures</a>
</footer>
</div>
</div>
</div></div></div>
```

```
<div class="inner">
                                        <div class="grid-style">
<section id="two" class="wrapper style2">

                                    <div>
                                        <div class="box">
                                            <div class="image fit">
                                                <img src="images/2.jpg"
alt="" />
                                            </div>
                                            <div class="content">
                                                <header class="align-
center">

                                                    <h2>What is a closed
shape figure?</h2>
                                                </header>
                                                <p> In geometry, a closed
shape can be defined as a enclosed shape or figure whose line segments end curves are
connected or meet. They start and end at the same point.</p>
                                                <footer class="align-center">
                                                    <a href="#spark"
class="button alt">Closed Figures</a>
                                                </footer>
                                            </div>
                                        </div>
                                    </div>

                                </div>
```

```
                    </div>
                </section>

<section id="kat">
<h2>OPEN FIGURES</h2>
<div class="works" id="work">
        <div class="container">
<div class="row">
<div class="col-md-3">
            <!-- work item -->
            <div class="work-item">
              <!-- work details image -->
              <img class="img-responsive" src="images/1.jpg" alt="" />
              <!-- heading -->
              <h3>
 </h3>
</div>
          </div>
          <div class="col-md-3">
              <!-- work item -->
              <div class="work-item">
                <!-- work details image -->
                <img class="img-responsive" src="images/6.jpg" alt="" />
                <!-- heading -->
                <h3>
</h3>
</div>
```

```
                </div>
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/7.jpg" alt="" />
                    <!-- heading -->
                    <h3>
</h3>
</div>
                </div>
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/8.jpg" alt="" />
                    <!-- heading -->
                    <h3>
 </h3>
</div>
              </div>
            </div>
          </div>

<section id="spark">
<h2>CLOSED FIGURES</h2>
   <div class="works" id="work">
```

```
<div class="container">

  <div class="row">
    <div class="col-md-6">

      <div class="work-item">
        <!-- work details image -->
        <img class="img-responsive" src="images/5.jpg" alt="" />

      </div>
    </div>
    <div class="col-md-3">
      <!-- work item -->
      <div class="work-item">
        <!-- work details image -->
        <img class="img-responsive" src="images/2.jpg" alt="" />

        <h3>                          </h3>

      </div>
    </div>
    <div class="col-md-3">
      <!-- work item -->
      <div class="work-item">
        <!-- work details image -->
        <img class="img-responsive" src="images/3.jpg" alt="" />
        <!-- heading -->
```

```
                    <h3>
</h3>
</div>
                </div>
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/4.jpg" alt="" />
                    <!-- heading -->
                    <h3>
 </h3><form>
   </div></div></div>
                </div>
                </div></section>
<center>  <h1>Animation of open and closed figured</h1>
<iframe width="420" height="345" src="https://www.youtube.com/embed/gBz-f0Sz0O4">
</iframe></center>


<br>
<br>
     <a href="firstpage.html" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none" class="abc">&laquo; Previous</a>
    <a href="POLYGON WEB PAGE.html" class="next btn btn-success btn-lg float-right abc" style="background-color: #2196F3;color: white;font-size:25px;float:right">Next &raquo;</a>
<!-- Scripts -->
                        <script src="assets/js/jquery.min.js"></script>
                        <script src="assets/js/jquery.scrollex.min.js"></script>
```

```
                        <script src="assets/js/skel.min.js"></script>
                        <script src="assets/js/util.js"></script>
                        <script src="assets/js/main.js"></script>

                </body>
</html>
```

Closed.html:-

```
<!-- One -->
        <section id="one" class="wrapper style2">


            <div class="inner">
               <div class="grid-style">

                  <div>
                     <div class="box">
                        <div class="image fit">
                           <img src="images/1.jpg" alt="" />
                        </div>
                        <div class="content">
                           <header class="align-center">

                              <h2>What is an open shape?</h2>
                           </header>
                           <p>
```

In geometry, an open can be defined as a shape or figure whose end do not meet. They do not start and end at the same point.

```
</p>
                    <footer class="align-center">
                      <a href="open.html" class="button alt">Open Figures</a>
                    </footer>
                  </div>
                </div>
              </div>

              <div>
                <div class="box">
                  <div class="image fit">
                    <img src="images/2.jpg" alt="" />
                  </div>
                  <div class="content">
                    <header class="align-center">

                      <h2>What is a closed shape figure?</h2>
                    </header>
                    <p> In geometry, a closed shape can be defined as a enclosed shape or figure whose line segments end curves are connected or meet. They start and end at the same point.</p>
                    <footer class="align-center">
                      <a href="closed.html" class="button alt">Closed Figures</a>
                    </footer>
                  </div>
                </div>
              </div>
```

```
            </div>
          </div>
        </section>



  <div class="works" id="work">
          <div class="container">

            <div class="row">
              <div class="col-md-6">

                <div class="work-item">
                  <!-- work details image -->
                  <img class="img-responsive" src="images/5.jpg" alt="" />
                  <!-- heading -->
                  <h3>

</h3>

                </div>
              </div>
              <div class="col-md-3">
                <!-- work item -->
                <div class="work-item">
                  <!-- work details image -->
                  <img class="img-responsive" src="images/2.jpg" alt="" />

                  <h3>                          </h3>
```

```
                </div>
            </div>
            <div class="col-md-3">
                <!-- work item -->
                <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/3.jpg" alt="" />
                    <!-- heading -->
                    <h3>
</h3>

                </div>
            </div>
            <div class="col-md-3">
                <!-- work item -->
                <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/4.jpg" alt="" />
                    <!-- heading -->
                    <h3>
 </h3>

                </div>
            </div>
            <div class="col-md-3">
                <!-- work item -->
                <div class="work-item">
                    <!-- work details image -->
```

```
                    <img class="img-responsive" src="images/1.jpg" alt="" />
                    <!-- heading -->
                    <h3>
 </h3>

                  </div>
                </div>
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/6.jpg" alt="" />
                    <!-- heading -->
                    <h3>
</h3>

                  </div>
                </div>
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/7.jpg" alt="" />
                    <!-- heading -->
                    <h3>
</h3>

                  </div>
                </div>
```

```
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/8.jpg" alt="" />
                    <!-- heading -->
                    <h3>
</h3>

                  </div>
                </div>
              </div>
            </div>
          </div>
```

Opened.html:-

```
<!-- One -->
        <section id="one" class="wrapper style2">


            <div class="inner">
              <div class="grid-style">

                <div>
                  <div class="box">
                    <div class="image fit">
                      <img src="images/1.jpg" alt="" />
                    </div>
                    <div class="content">
```

```
                    <header class="align-center">

                      <h2>What is an open shape?</h2>
                    </header>
                    <p>
```

In geometry, an open can be defined as a shape or figure whose end do not meet. They do not start and end at the same point.

```
</p>
                    <footer class="align-center">
                      <a href="open.html" class="button alt">Open Figures</a>
                    </footer>
                  </div>
                </div>
              </div>

              <div>
                <div class="box">
                  <div class="image fit">
                    <img src="images/2.jpg" alt="" />
                  </div>
                  <div class="content">
                    <header class="align-center">

                      <h2>What is a closed shape figure?</h2>
                    </header>
                    <p> In geometry, a closed shape can be defined as a enclosed shape or figure whose line segments end curves are connected or meet. They start and end at the same point.</p>
```

```
                        <footer class="align-center">
                            <a href="closed.html" class="button alt">Closed Figures</a>
                        </footer>
                    </div>
                </div>
            </div>

        </div>
    </div>
</section>



<div class="works" id="work">
    <div class="container">

        <div class="row">
            <div class="col-md-6">

                <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/5.jpg" alt="" />
                    <!-- heading -->
                    <h3>

</h3>

                </div>
            </div>
```

```
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/2.jpg" alt="" />

                    <h3>                              </h3>

                  </div>
                </div>
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/3.jpg" alt="" />
                    <!-- heading -->
                    <h3>
</h3>

                  </div>
                </div>
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/4.jpg" alt="" />
                    <!-- heading -->
                    <h3>
 </h3>
```

```
                </div>
            </div>
            <div class="col-md-3">
                <!-- work item -->
                <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/1.jpg" alt="" />
                    <!-- heading -->
                    <h3>
 </h3>

                </div>
            </div>
            <div class="col-md-3">
                <!-- work item -->
                <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/6.jpg" alt="" />
                    <!-- heading -->
                    <h3>
</h3>

                </div>
            </div>
            <div class="col-md-3">
                <!-- work item -->
                <div class="work-item">
                    <!-- work details image -->
```

```
                    <img class="img-responsive" src="images/7.jpg" alt="" />
                    <!-- heading -->
                    <h3>
</h3>

                  </div>
                </div>
                <div class="col-md-3">
                  <!-- work item -->
                  <div class="work-item">
                    <!-- work details image -->
                    <img class="img-responsive" src="images/8.jpg" alt="" />
                    <!-- heading -->
                    <h3>
 </h3>

                  </div>
                </div>
              </div>
            </div>
          </div>
```

Polygons.html:-

```
<!DOCTYPE html>
<html>
 <head>
  <link rel="stylesheet" type="text/css" href="polydesign.css">
  <link rel="stylesheet" type="text/css" href="bootstrap/css/bootstrap.min.css">
  <script src="bootstrap/js/bootstrap.min.js"></script>
```

```
 <style>
.abc {
        text-decoration: none;
        display: inline-block;
        padding: 8px 16px;
        }

       .abc:hover {
        background-color: #ddd;
        color: black;
         }

 </style>
<title>polygons</title>
</head>
<body>
 <center><h1 class="heading">POLYGONS</h1></center>
 <ul><li><a href="#definition" style="text-decoration:none;">DEFINITION OF POLYGON</button></a><br><br></li>
   <li><a href="#formulae" style="text-decoration:none;">BASIC FORMULAS</a><br><br></li>
   <li><a href="#classification" style="text-decoration:none;">TYPES OF POLYGONS BASED ON SIDES</a><br><br></li>
   <li><a href="#angles" style="text-decoration:none;">ANGLES OF POLYGONS</a><br><br></li>
   <li><a href="#classification" style="text-decoration:none;">TYPES OF POLYGONS BASED ON ANGLES</a></li>
   <ul type=square><li><a href="#concave" style="text-decoration:none;">SIMPLE POLYGON</a><br></li>
   <li><a href="#convex" style="text-decoration:none;">COMPLEX POLYGON</a><br></li>
   <li><a href="#convex" style="text-decoration:none;">CONVEX POLYGON</a><br></li>
   <li><a href="#convex" style="text-decoration:none;">CONVEX POLYGON</a><br></li>
```

```
    <li><a href="#regular"style="text-decoration:none;">REGULAR POLYGON</a><br></li>
    <li><a href="#irregular"style="text-decoration:none;">IRREGULAR POLYGON</a><br></li></ul>
  <li><a href="#quiz" style="text-decoration:none;">QUIZ</a><br><br></li>
  <li><a href="#video"style="text-decoration:none;">VIDEO ON POLYGON</a><br></li></ul><br><br>
 <h2 id="definition" style="text-decoration:none;">DEFINITION OF POLYGON:</h2>
 <p>A figure is a polygon if it is a closed figure,formed with a definite number of straight lines.</p>
 <p>The three identifying properties of any polygon are that the polygon is:
 <ul><li>A two-dimensional shape</li>
    <li>Closing in a space (having an interior and exterior)</li>
    <li>Made with straight sides</li></ul>
 <p><b>Examples:</b></p>
  <img style="float: left; " src="IMAGES/polygon3.jpg" width="300" height="150">
  <img style="align: center; " src="IMAGES/polygon2.jpg" width="400" height="150">
  <img style="align: center; " src="IMAGES/polygon4.jpg" width="300" height="150">
  <img style="float: right; " src="IMAGES/polygon1.jpg" width="250" height="150"><br><br>.
 <h5 style="color:blue;"><i>DO YOU KNOW??</i></h5>
  <img src="IMAGES/emoji.jpg" width=150px height=90px>
  <v>Polygon comes from Greek.Poly-means "many" -gon means "angle"</v><br>
 <br><br><h2 id="formulae">BASIC POLYGON FORMULAS</h2>
  <ul><li>Area of a polygon of perimeter p and radius of in-circle r = 1/2xpxr</li>
     <li>The sum of all the exterior angles = 360°</li>
     <li>Interior angle + corresponding exterior angle = 180°.</li>
     <li>The sum of the interior angles of a convex POLYGON, having n sides is 180° (n - 2).</li>
     <li>The sum of the exterior angles of a convex polygon, taken one at each vertex, is 360°.</li>
     <li>The measure of an exterior angle of a regular n- sided polygon is 360°/n</li>
     <li>The measure of the interior angle of a regular n-sided polygon is (n-1)180°/n</li>
     <li>The number of diagonals of in an n-sided polygon is n(n-3)/2</li></ul>
  <p>You will find that you could not form a polygon using two sticks. A polygon must have atleast three sides. A polygon with three sides is called a triangle. Study the table given below andlearn the names of the various types of polygons.</p>
```

```
<h5 style="color:blue;"><i>DO YOU KNOW??</i></h5>
 <img src="IMAGES/emoji.jpg" width=150px height=90px>
 <v>A circle is a regular 2D shape but it is not a polygon because it does not have any straight sides</v>
<br><br>
<h2>CLASSIFICATION</h2>
 <p>A polygon can be classified on the basis of a number of sides and measure of angles.</p>
<h3 id="classification">Classification on the basis of sides</h3>
<center><table border=1>
<tr><th>POLYGON</th>
  <th>NUMBER OF SIDES</th>
  <th>NUMBER OF DIAGONAL</th>
  <th>NUMBER OF VERTICES</th>
  <th>INTERIOR ANGLE</th>
</tr>
<tr><td>Triangle</td>
  <td>3</td>
  <td>0</td>
  <td>3</td>
  <td>60</td>
</tr>
<tr><td>Quadrilateral</td>
  <td>4</td>
  <td>2</td>
  <td>4</td>
  <td>90</td>
</tr>
<tr><td>Pentagon</td>
  <td>5</td>
  <td>5</td>
```

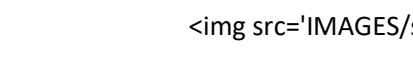
```
  <td>5</td>
  <td>108</td>
</tr>
<tr><td>Hexagon</td>
  <td>6</td>
  <td>9</td>
  <td>6</td>
  <td>120</td>
</tr>
<tr><td>Heptagon</td>
  <td>7</td>
  <td>14</td>
  <td>7</td>
  <td>128.571</td>
</tr>
<tr><td>Octagon</td>
  <td>8</td>
  <td>20</td>
  <td>8</td>
  <td>135</td>
</tr>
<tr><td>Nonagon</td>
  <td>9</td>
  <td>27</td>
  <td>9</td>
  <td>140</td>
</tr>
<tr><td>Decagon</td>
  <td>10</td>
```

```
  <td>35</td>
  <td>10</td>
  <td>144</td>
</tr>
</table></center>
<h5 style="color:blue;"><i>DO YOU KNOW??</i></h5>
 <img src="IMAGES/emoji.jpg" width=150px height=90px>
 <v>Polygons with 13 or more sides,it is easier to write "13-gon","14-gon"......."100-gon",etc..</v>

<br><br>
<h3>Classification on the basis of angles</h3>
  <p>Before going to see this topic lets see some information about angles</p>

<h2 id="angles">ANGLES OF POLYGONS</h2>
  <p>One must keep in mind that all polygons possess internal angles and external angles. In addition, a polygon’s external angle can be termed as that which is extended on one side. Here are certain rules which are followed regarding angles of a polygon.</p><center><img src="IMAGES/angle.jpg" width=200px height=200px></center><br>
    <ul><li><h4>Exterior Angle of a Polygon:</h4>  An exterior angle of a polygon is an angle outside the polygon formed by one of its sides and the extension of an adjacent side.</li>
      <li><h4>Interior Angle of a Polygon:</h4>  An interior angle of a polygon is an angle inside the polygon at one of its vertices. </li></ul>

<h5 style="color:blue;"><i>DO YOU KNOW??</i></h5>
 <img src="IMAGES/emoji.jpg" width=150px height=90px>
 <v>Interior Angles are sometimes called "Internal Angles"</v>

<br><br>
<p>Now,lets see about the comparision of polygons on the basis of angles</p>
```

<h2 id="simple"><u>SIMPLE POLYGON</u></h2>

A simple polygon has only one boundary, and it doesn't cross over itself. The sides of a simple polygon do not intersect.

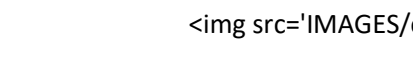
<h5>Example</h5>



<h2 id="complex"><u>COMPLEX POLYGON</u></h2>

Complex polygon is a polygon whose sides cross over each other one or more times

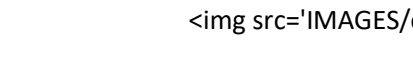
<h5>Example</h5>



<h2 id="concave"><u>CONCAVE POLYGON</u></h2>

In a concave polygon, at least one angle measures more than 180 degrees. The vertices of a concave polygon are inwards as well as outwards.

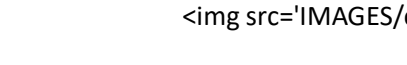
<h5>Example</h5>



<h2 id="convex"><u>CONVEX POLYGON</u></h2>

In a convex polygon, the measure of the interior angle is less than 180 degrees. It is exactly opposite to the concave polygon. The vertices of a convex polygon are always outwards.

<h5>Example</h5>



<h2 id="regular"><u>REGULAR POLYGON</u></h2>

A regular polygon has:
all sides equal and
all angles equal. A special class of polygon exists it happens for polygons whose sides are all the same length and whose angles are all the same. When this happens, the polygons are called regular polygons. A stop sign is an

example of a regular polygon with eight sides. All the sides are the same and no matter how you lay it down, it will look the same. You wouldn't be able to tell which way was up because all the sides are the same and all the angles are the same.

<h5>Example</h5>

<img src='IMAGES/regular.jpg'>

<h5 style="color:blue;">DO YOU KNOW??</h5>

<img src="IMAGES/emoji.jpg" width=150px height=90px>

<v style="font-size:22px">The number of lines of symmetry in a regular polygon is equal to the number of sides</v>

<img src="IMAGES/regex.jpg" width=120px height=80px>

<h2 id="irregular"><u>IRREGULAR POLYGON</u></h2>

Polygons are two-dimensional geometric objects composed of points and straight lines connected together to close and form a single shape. Irregular polygons are polygons that have unequal angles and unequal sides, as opposed to regular polygons which are polygons that have equal sides and equal angles.

<h5>Example</h5>

<img src='IMAGES/irregular.jpg'>

<h2 id="video">VIDEO OF POLYGONS</h2>

<iframe width="560" height="315" src="https://www.youtube.com/embed/UeKN5-ogFTs" frameborder="0" allow="accelerometer; autoplay; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>

<h2><u>FOCUS AND FIND:):)</u></h2>

<img src="IMAGES/fun.jpg" width=400 height=400>

</script>

```
<a href="index.html" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none" class="abc">&laquo; Previous</a>

<a href="Types.html" class="next btn btn-success btn-lg float-right abc" style="background-color: #2196F3;color: white;font-size:25px;float:right">Next &raquo;</a>



</body>

</html>
```

POLYDESIGN.CSS:-

```
<style>

button{

 margin-right: 100px;

 color:blue;

}

.heading{


color:#3498db;

   text-align:center;

   border: solid 5px cyan;

   border-radius:10px;

   font-size: 75px;

   height:125px;

   background-color:cyan;

   padding-top:10px;

   padding-bottom:10px;

   border-color:#3498db;

   margin-top:0px;
```

```
}
h1{
   font-size: 50px;
   background-color: #3498db;
}
a:hover{
font-size:35px;
}
a:link{
text-decoration: none;
}
h2{

background-color:#3498db;

}
h5{
 color:#A901DB;
}
h4{
 color:#0101DF;
}
v {
  font-size:25px;

  border-left: 6px solid #2196F3;
  border-right: 6px solid #2196F3;
  background-color:#e7f3fe;
```

```
  padding:20px
}

img{
 text-align:left;
}
i{
 color:blue;
 font-size:35px;
}

p,li,table{
 font-size:25px;
}
td{
text-align:center;
}
.previous {
                    background-color: #2196F3;
                   color: white;
            font-size:25px;
                }

.next {
                 background-color: #2196F3;
                color: white;
        font-size:25px;
}
```

Types.html:-

```
<html>
   <head>
      <title>Types of Polygons</title>
      <style>
         p{
            font-size: 40px;
         background-color: #e7f3fe;
         border-left: 6px solid #2196F3;
         border-right: 6px solid #2196F3;
         }
         .heading{
   color:#3498db;
   text-align:center;
   border: solid 5px cyan;
   border-radius:10px;
   font-size: 75px;
   height:125px;
   background-color:cyan;
   padding-top:50px;
   border-color:#3498db;
   margin-top:0px;
   }
   .container{
   text-align: center;
   margin-top: 100px;
}
.btn{
```

```
    border: 1px solid #3498db;
    background: none;
    padding: 40px 50px;
    font-size: 50px;
    font-family: "montserrat";
    cursor:pointer;
    margin: 20px;
    transition: 0.8s;
    position: relative;
    overflow: hidden;
}
.container{
    text-align: center;
    margin-top: 100px;
}
.btn1,.btn2{
    color: #3498db;
}
.btn1:hover,.btn2:hover{
    color: #fff;
}
.btn::before{
    content: "";
    position: absolute;
    left: 0;
    width: 100%;
    height: 0%;
    background: #3498db;
    z-index: -1;
```

```
    transition: 0.8s;
}
.btn1::before,.btn2::before{
    top: 0;
    border-radius: 0 0 50% 50%;
}
.btn1:hover::before,.btn2:hover::before{
    height:180%;
}
.abc {
            text-decoration: none;
            display: inline-block;
            padding: 8px 16px;
            }

           .abc:hover {
            background-color: #ddd;
            color: black;
             }


    </style>
  </head>
  <body>
    <center>
      <h1 class="heading">TYPES OF POLYGONS </h1>
      <p><i>Types of Polygons</i></p><br><br>
      <img src="Images/types-of-polygons.jpg"> <br>
    </center>
```

```
    <div class="container">
      <a href="Triangle.html"><button class="btn btn1">Triangle</button></a>
      <a href="parallelogram.html"><button class="btn btn2">Parallelogram</button></a><br><br>
                <!--<a href="POLYGON WEB PAGE.html" class="previous">&laquo; Previous</a>-->
      <a href="POLYGON WEB PAGE.html" style="background-color: #2196F3;color: white;font-size:25px;float:left" class="abc">&laquo; Previous</a>
    </div>
  </body>
</html>
```

Triangle.html:-

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" type="text/css" href="Style.css">
<title> Triangle Properties </title>
<style>

 .abc {
        text-decoration: none;
        display: inline-block;
        padding: 8px 16px;
        }

       .abc:hover {
        background-color: #ddd;
        color: black;
         }

</style>
```

```
</head>
<body>
  <center>
    <h1 class="heading">TRIANGLES </h1>
  </center>
  <div class="container">
    <h1>Types of Triangles</h1>
    <center><img src="Images/Classification.jpeg"></center>
    <a href="Angles.html"><button class="btn btn1">Based on Angles</button></a>
   <a href="Sides.html"><button class="btn btn2">Based on Sides</button></a>
  </div>
  <center>
    <div class="container">
      <h1>Properties of Triangles</h1>
      <center><img src="Images/Concepts.png" width="500px" height="500px"></center>
      <a href="Properties.html"><button class="btn btn2">Properties</button></a>
      <a href="Formulas.html"><button class="btn btn1">Formulas</button></a>
    </div><br>
    <br>
    <h2>Video to get better idea on TRIANGLES</h2>
    <br>
    <p><i>Types of Triangles</i></p>

    <iframe  width="500" height="300" src="https://www.youtube.com/embed/1k0G-Y41jRA">
    </iframe><br><br>

    <p><i>Properties of Triangles</i></p>
    <iframe  width="500" height="300" src="https://www.youtube.com/embed/w9aUR_XXd0Y">
```

```
    </iframe><br><br>

  <!--<video src="https://www.youtube.com/watch?v=w9aUR_XXd0Y"></video>-->
  <!--<video src="https://www.youtube.com/watch?v=1k0G-Y41jRA"></video>-->
  <!--<video src="https://www.youtube.com/watch?v=3hlibITOxLY"></video>-->
     <br>


    <a href="Types.html" class="abc" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none;float:left">&laquo; Previous</a>
    <a href="parallelogram.html" style="background-color: #2196F3;color: white;font-size:25px;float:right" class="abc">Next &raquo;</a>
  </center>
  <br><br>
</body>
</html>
```

TRIANGLE(ANGLES).HTML:-

```
<html>
  <head>
    <link rel="stylesheet" type="text/css" href="stylee.css">
    <title>Based on Angles</title>
<style>
.abc {
        text-decoration: none;
        display: inline-block;
        padding: 8px 16px;
        }
```

```
            .abc:hover {
             background-color: #ddd;
             color: black;
              }

</style>

  </head>
  <body>
    <center>
      <h1>Based on Angles</h1>
      <img id="Images" src="Images/Angles.jpg" border="3" width=500px height=500px>
      <p id="information"></p><br>
      <button class="btn btn1" onclick="acute()">Acute Angled Triangle</button>
      <button class="btn btn2" onclick="right()">Right Angled Triangle</button>
      <button class="btn btn3" onclick="obtuse()">Obtuse Angled Triangle</button>
      <br>
      <a href="Triangle.html" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none" class="abc">&laquo; Back</a>
    </center>
    <h3>
      <script>
      function acute()
      {
      document.getElementById('Images').src='Images/Acute.png';
      document.getElementById('information').innerHTML="An acute angle triangle (or acute angled triangle) is a triangle that has acute angles as all of its interior angles. To recall, an acute angle is an angle that is less than 90°."
      }
```

```
        function right()
        {
        document.getElementById('Images').src='Images/Right.jpeg';
        document.getElementById('information').innerHTML="A right-angled triangle is the one which has 3 sides, “base” “hypotenuse” and “height” with the angle between base and height being 90°."
        }

        function obtuse()
        {
        document.getElementById('Images').src='Images/Obtuse.png';
        document.getElementById('information').innerHTML="A triangle whose any one of the angles is an obtuse angle or more than 90 degrees, then it is called obtuse-angled triangle or obtuse triangle. "
        }
        </script>
      </h3>
   </body>
</html>
```

Sides.html:-

```
<html>
   <head>
      <link rel="stylesheet" type="text/css" href="stylee.css">
      <title>Based on Sides</title>
     <style>
                .abc {
            text-decoration: none;
            display: inline-block;
            padding: 8px 16px;
            }
```

```
        .abc:hover {
         background-color: #ddd;
         color: black;
         }

            </style>

  </head>
  <body >
    <center>
      <h1>Based on Sides</h1>
      <img id="Sides" src="Images/Sides.jpg" border="3" width=500px height=500px>
      <p id="information"></p><br>
      <button class="btn btn1" onclick="Equilateral()">Equilateral Triangle</button>
      <button class="btn btn1" onclick="Isosceles()">Isosceles Triangle</button>
      <button class="btn btn1" onclick="Scalene()">Scalene Triangle</button>
      <br>
      <a href="Triangle.html" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none" class="abc">&laquo; Back</a>
    </center>
    <h3>
      <script>
        function Equilateral()
        {
        document.getElementById('Sides').src='Images/Equilateral.png';
        document.getElementById('information').innerHTML="An equilateral triangle is a triangle in which all three sides are equal also equiangular; that is, all three internal angles are also congruent to each other and are each 60°."
        }
```

```
        function Isosceles()
        {
        document.getElementById('Sides').src='Images/Isosceles.png';
        document.getElementById('information').innerHTML="An Isosceles Triangle is a triangle that has two sides of equal length. Sometimes it is specified as having exactly two sides of equal length, and sometimes as having at least two sides of equal length"
        }

        function Scalene()
        {
        document.getElementById('Sides').src='Images/Scalene.png';
        document.getElementById('information').innerHTML="A Scalene Triangle is a triangle in which all sides (and therefore angles) are different "
        }
      </script>
  </body>
</html>
```

Properties.html:-

```
<html>
  <head>
    <title>Properties</title>
    <style>
    p{
      font-size: 25px;
      background-color: #e7f3fe;
      border-left: 6px solid #2196F3;
      border-right: 6px solid #2196F3;
    }
    .heading{
```

```
        font-size: 50px;
        background-color: #3498db;
    }
    ul{
        font-size: 25px;
    }

                .abc {
        text-decoration: none;
        display: inline-block;
        padding: 8px 16px;
        }

        .abc:hover {
        background-color: #ddd;
        color: black;
        }
    </style>
  </head>
  <body>
    <center><h1 class="heading">Properties of Triangles</h1></center>
   <ul>
      <li>A triangle has three sides, three vertices, and three angles.</li><br>
      <li>A triangle with vertices P, Q, and R is denoted as △PQR.</li><br>
      <li>The sum of the three interior angles of a triangle is always 180°. In ΔABC, ∠ABC + ∠BAC + ∠ACB = 180°</li><br>
      <li>The sum of the length of two sides of a triangle is always greater than the length of the third side.
        In ΔABC, AB + BC > AC, also AB + AC > BC and AC + BC > AB.
      </li><br>
```

```
        <li>The difference of any two sides is always less than the third side.</li></br>
        <li>The sum of an interior angle and the adjacent exterior angle is 180°.</li><br>
        <li>The area of a triangle is equal to half of the product of its base and height.</li><br>
      </ul>
      <h1>Fun Facts</h1>
      <p><i>
        A triangle can always be split into two right triangles, irrespective of its orientation.
        Triangles are polygons with the least number of sides
      </i>

      </p>
      <br><br>
      <center>
        <a href="Triangle.html" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none;float:left" class="abc">&laquo;Back</a>
        <a href="Firstpage.html" style="background-color: #2196F3;color: white;font-size:25px;float:right;text-decoration:none" class="abc">Index Page &raquo;</a>
      </center>

    </body>
</html>
```

Formulas.html:-

```
<html>
  <head>
    <title></title>
    <style>
    p{
      font-size: 25px;
      background-color: #e7f3fe;
      border-left: 6px solid #2196F3;
      border-right: 6px solid #2196F3;
    }
    .heading{
      font-size: 50px;
      background-color: #3498db;
      }

                              .abc {
        text-decoration: none;
        display: inline-block;
        padding: 8px 16px;
        }

       .abc:hover {
        background-color: #ddd;
        color: black;
         }
    </style>
  </head>
```

```
<body>
    <center><h1 class="heading">Formulas on Triangles</h1>
    <h1>Area of Triangles</h1>
    <img src="Images/Area-of-Triangle.jpg" width=200px height=200px><br>
    <p>Area of a Triangle = A = ½ (b × h) square units</p><br><br>

    <img src="Images/Area-of-EquiTriangle.jpg" width=200px height=200px><br>
    <p>Area of an Equilateral Triangle = A = (√3)/4 × side2</p><br><br>

    <img src="Images/Area-of-RightTriangle.jpg" width=200px height=200px><br>
    <p>Area of a Right Triangle = A = ½ × Base × Height(Perpendicular distance)</p><br><br>

    <img src="Images/Area-of-IsoTriangle.jpg" width=200px height=200px><br>
    <p> Area of an Isosceles Triangle = A = ½ (base × height)</p><br><br>

    <img src="Images/Herons.png" width=300px height=150px><br>
    <p>Area using Herons Formula<br>T= sqrt{s(s-a)(s-b)(s-c)}<br> where s= (a+b+c)/2 is the semiperimeter, or half of the triangle's perimeter.</p><br><br>

    <img src="Images/Triangle.png" width=200px height=200px><br>
    <p>If we have two sides and angle between them, then depending on them we can find the area with the help of following formulas:<br>

        Area (ΔABC) = ½ bc sin A<br>

        Area (ΔABC) = ½ ab sin C<br>

        Area (ΔABC) = ½ ca sin B
        </p><br><br>
```

```
        <a href="Triangle.html" class="abc" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none;float:left">&laquo; Back</a>

        <a href="firstpage.html" class="abc" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none;float:right">Index Page &raquo;</a>

      </center>

   </body>

</html>
```

Style.css:-

```
.heading{

   color:#3498db;

   text-align:center;

   border: solid 5px cyan;

   border-radius:10px;

   font-size: 75px;

   height:125px;

   background-color:cyan;

   padding-top:50px;

   border-color:#3498db;

   margin-top:0px;

   }


h1{

   font-size: 50px;

   background-color: #3498db;

}

h2{

   font-size: 50px;

   background-color: #3498db;
```

```
}
p{
    font-size: 30px;
    background-color: #e7f3fe;
    border-left: 6px solid #2196F3;
    border-right: 6px solid #2196F3;
}
body{
    margin:0;
    padding:0;
}
.container{
    text-align: center;
    margin-top: 100px;
}
.previous,.next{
    background-color: #2196F3;
    color: white;
        font-size:30px;
     }


.btn{
    border: 1px solid #3498db;
    background: none;
    padding: 40px 50px;
    font-size: 50px;
    font-family: "montserrat";
    cursor:pointer;
```

```
    margin: 20px;
    transition: 0.8s;
    position: relative;
    overflow: hidden;
}
.btn1,.btn2{
    color: #3498db;
}
.btn1:hover,.btn2:hover{
    color: #fff;
}
.btn::before{
    content: "";
    position: absolute;
    left: 0;
    width: 100%;
    height: 0%;
    background: #3498db;
    z-index: -1;
    transition: 0.8s;
}
.btn1::before,.btn2::before{
    top: 0;
    border-radius: 0 0 50% 50%;
}
.btn1:hover::before,.btn2:hover::before{
    height:180%;
}
```

Parallelogram.html:-

```
<!DOCTYPE html>
 <html>
    <head>
       <title>PARLLELOGRAMS</title>
       <link rel="stylesheet" type="text/css" href="bootstrapbasics/css/bootstrap.min.css">
       <script src="bootstrap/js/bootstrap.min.js"></script>
       <style>
         .heading{
   color:#3498db;
   text-align:center;
   border: solid 5px cyan;
   border-radius:10px;
   font-size: 75px;
   height:125px;
   background-color:cyan;
   padding-top:10px;
   padding-bottom:10px;
   border-color:#3498db;
   margin-top:0px;
   }
h1{
   font-size: 50px;
   background-color: #3498db;
}

        .a{
           display: block;
```

```
    margin-left: auto;
    margin-right: auto;
    width:300px;
    height:300px;
   }
.center{
    display: block;
    margin-left: auto;
    margin-right: auto;
    width:1000px;
    height:1000px;
   }
img {

    margin-left: auto;
    margin-right: auto;
    width:300px;
    height:300px;

    }



  * {
    box-sizing: border-box;
    }

 .column {
    float: left;
```

```
  width: 33.33%;
  padding: 5px;
  }

.row::after {
  content: "";
  clear: both;
  display: table;
  }


.info {
  font-size:25px;
  background-color: #e7f3fe;
  border-left: 6px solid #2196F3;
  border-right: 6px solid #2196F3;
  margin-bottom: 15px;
  padding: 30px 50px;
  }

 .info1{
        font-size:22px;
        background-color:#6A5ACD;
        border-left: 6px solid #3c3c3c;
        border-right: 6px solid #3c3c3c;
   border-left: 6px #483D8B;
        border-right: 6px #483D8B ;
        margin-bottom: 15px;
        padding: 30px 50px;
```

```
color:white;
            }
           .form{
            font-size:25px;
            background-color: #e7f3fe;
            border-left: 6px solid #2196F3;
            border-right: 6px solid #2196F3;
            margin-bottom: 5px;
            padding: 4px 4px 4px 4px;

            }
a {
 text-decoration: none;
 display: inline-block;
 padding: 8px 16px;
 }

a:hover {
 background-color: #ddd;
 color: black;
  }

iframe{
display: block;
margin-left: auto;
margin-right: auto;}
.previous {
             background-color: #2196F3;
            color: white;
```

```
        font-size:25px;
                        }

                .next {
                 background-color: #2196F3;
                color: white;
        font-size:25px;
                }
                </style>
    </head>
    <body>

            <h1 class="heading" style="text-align:center">PARLLELOGRAMS</h1>

            <br>

            <h2>TOPICS</h2>
      <ul>
    <li><a href="#link" style="color:blue;font-size:25px;text-decoration:none;"> WHAT ARE QUADRILATERALS?</a></li>
    <li><a href="#link1" style="color:blue;font-size:25px;text-decoration:none;">Properties of a Quadrilateral</a></li>
    <li><a href="#link2" style="color:blue;font-size:25px;text-decoration:none;">Types of Quadrilaterals</a></li>
    <li><a href="#link3" style="color:blue;font-size:25px;text-decoration:none;">WHAT ARE PARALLELOGRAMS?</a></li>
    <li><a href="#link4" style="color:blue;font-size:25px;text-decoration:none;">Properties of Parallelogram</a></li>
    <li><a href="#link5" style="color:blue;font-size:25px;text-decoration:none;">AREA and PERIMETER of Parallelogram</a></li>
```

```
<li><a href="#link6" style="color:blue;font-size:25px;text-decoration:none;">Vedios</a></li></ul><br><br>

<p style="font-size:25px">Befor going to parallelograms, lets see "What are Quadrilaterals?" </p>

<br><br>

<h2 id="link">WHAT ARE QUADRILATERALS?</h2>

<p style="font-size:25px">In geometry , a quadrilateral can be defined as a closed , two-dimentional shape which has four straight sides.</p>

<img class="a" src="images/quadrilateral1.jpeg" alt="quadrilateral"/>

<br>

<p style="font-size:25px">For exampple , We can find the shape of quadrilaterals in various things around us, like in a chess board , a deck of cards , a kite.</p>

<div class="row">
 <div class="column">
    <img src="images/chessbord.png" alt="Chess board" style="width:100%">
 </div>
 <div class="column">
    <img src="images\deckofcards.jpeg"" alt="Deck of cards" style="width:100%">
```

```
 </div>
 <div class="column">
    <img src="images\kite.png" alt="Kite" style="width:100%">
 </div>
</div>

<h2 id="link1">What are properties of a Quadrilateral? <img src="images\thinkingemoji.jpeg" align="left" style="width:100px; height:100px"></h2>

<br><br>

<p style="font-size:25px">Let's see ,What are Properties of a Quadrilateral :)</p>

<h2 >Properties of a Quadrilateral:</h2>

<ul style="font-size:25px">
    <li>A quadrilateral has 4 sides, 4 angles and 4 vertices.</li>
    <li>A quadrilateral can be regular or irregular.</li>
    <li>The sum of all the interior angles of a quadrilateral is 360°.</li>
</ul>

<p style="font-size:25px ">Now,Let's see "What are types of Quarilaterals are there?"</p>

<h2 id="link2">How many types of Quadrilaterals are there?</h2>

<p style="font-size:25px">There are SIX types:</p>
```

```
<ol style="font-size:25px">
    <li>Trapezium.</li>
    <li>Parallelogram.</li>
    <li>Rectangle.</li>
    <li>Rhombus.</li>
    <li>Square.</li>
    <li> Kite.</li>
</ol>

<br>

<img src="images\qtop1.gif" class="center">

<br>

<h2>FUN FACTOR</h2>

<p class="info">The word quadrilateral has originated from two Latin words quadri which means “four” and, latus meaning “side”.</p>

<p style="font-size:25px " >Now we got some knowledge on QUADRILATERALS ,we will now learn what are PARALLELOGRAMS? </p>

<br>

<h1 id="link3" style="text-align:center"> WHAT ARE PARALLELOGRAMS?</h1>

<br>
```

One special kind of polygons is called a parallelogram. It is a quadrilateral where both pairs of opposite sides are parallel.

(or)

A figure is a polygon if it is a closed figure,formed with a definite number of straight lines.Some examples are shown here.

<h2 id="link4">WHAT MAY BE THE PROPERTIES OF PARALLELOGRAM?</h2>

Let's see

<h2>Properties of Parallelogram:</h2>

<ol style="font-size:25px">
Opposite sides are congruent (AB = DC).
Opposite angels are congruent (D = B).
Consecutive angles are supplementary (A + D = 180°).
If one angle is right, then all angles are right.
The diagonals of a parallelogram bisect each other.
Each diagonal of a parallelogram separates it into two congruent

<h2>FUN FACTOR</h2>

The term ‘parallelogram’ is derived from Middle French ‘parallélogramme’,

Late Latin ‘parallelogrammum’ and Greek ‘parallelogrammon’ which means “bounded by parallel lines”.

<h2 id="link5">AREA of Parallelogram</h2>

The Area is the base times the height:

Area = b × h (h is at right angles to b)

<h3 style="font-style: oblique;font-size:25px">Example</h3>

A parallelogram has a base of 6 m and is 3 m high, what is its Area?

Sol: Area = 6 m × 3 m = 18 m2

<h2>PERIMETER of a Parallelogram</h2>

The Perimeter is the distance around the edges.

The Perimeter is 2 times the (base + side length):

Perimeter = 2(b+s)

<h3 style="font-style: oblique;font-size:25px">Example</h3>

A parallelogram has a base of 12 cm and a side length of 6 cm, what is its Perimeter?

Sol: Perimeter = 2 × (12 cm + 6 cm) = 2 × 18 cm = 36 cm

<h2>Types of Parallelograms</h2>

<ul style="font-size:25px">

Rectangle – A parallelogram with four angles of equal size (right angles).

Rhombus – A parallelogram with four sides of equal length.

Square – A parallelogram with four sides of equal length and angles of equal size (right angles).

<h2>NOTE:</h2>

Squares,Rectangles and Rhombuses are all parallelograma! But all Parallelograms are not Squares, not Rectangles and not Rhombuses.

Watch video below to get better understanding on QUADRILATERAL

```
<iframe width="500" height="300" src="https://www.youtube.com/embed/mLYen90HHiI">
</iframe>

<br> <br>
<p style="font-size:25px" align:"center">Watch a video to get better understanding on PARALLELOGRAMS </p>
<br>
<iframe width="500" height="300" src="https://www.youtube.com/embed/X1klhqNHeJk">
</iframe>

<br>

<br>
<h1><marquee>THE END , Hope you understood :)</marquee></h1>

<br>
<a href="Triangle.html" class="previous">&laquo; Previous</a>
<a href="quiz.html" class="next btn btn-success btn-lg float-right" style="float:right">Next QUIZ &raquo;</a>

</body>
</html>
```

Quiz.html:-

```
<html>
<head>
<title>Quiz on Polygons</title>
<link rel="stylesheet" href="quiz.css">
<link href="https://fonts.googleapis.com/css?family=Josefin+Sans" rel="stylesheet">
```

```
                <style>

.abc {
        text-decoration: none;
        display: inline-block;
        padding: 8px 16px;
        }
                </style>
            </head>
            <body>
                <div id="container">
      <h1><center>Quiz</center></h1>
                        <br/>
                        <div id="quiz"></div>
                <div class="button" id="next"><a href="#">Next</a></div>
                <div class="button" id="prev"><a href="#">Prev</a></div>
            </div>
    <script src="https://code.jquery.com/jquery-3.4.0.min.js"></script>
                <script src="quiz.js"></script>
            <a href="parallelogram.html" class="abc" style="background-color: #2196F3;color: white;font-size:25px;text-decoration:none">&laquo; Previous</a>
            <a href="firstpage.html" class="next btn btn-success btn-lg float-right abc" style="background-color: #2196F3;color: white;font-size:25px;float:right" >Next to go to Home page &raquo;</a>

            </body>
</html>
```

QUIZ.JS:-

```
(function()
```

```
{
 var allQuestions = [{
   question: "The open figures start and end point are ?",
   options: ["Same", "Different"],
   answer: 1
 }, {
   question: "For closed figures start and end point are ?",
   options: ["Same", "Different"],
   answer: 0
 },{
   question: "How many polygons are based on angles ?",
   options: ["4", "3", "6", "7"],
   answer: 2
 }, {
   question: "Polygon with 5 sides are called ?",
   options: ["Quadrilateral", "Pentagon", "Hexagon", "Decagon"],
   answer: 1
 },{
   question: "Sum of all interior angles of triangle ?",
   options: ["360", "90", "60","180"],
   answer: 3
 },{
   question: "Sum of lengths of two sides of a triangle is always ?",
   options: ["Less than the other side", "Equal to the other side", "Greater than the other side","Cant predict it with length of sides"],
   answer: 2
 },{
   question: "The area of triangle is equal to ?",
   options: ["Half the product of its base and height", "Product of its base and height", "Sum of its base and height", "Double of the product of its base and height"],
```

```
  answer: 0
 },{
  question: "Is square a parallelogram ?",
  options: ["May be", "False", "Sometimes", "True"],
  answer: 3
 },{
  question: "In parallelogram consequetive angles are ?",
  options: ["Complimentary", "Supplimentary ", "Neighter Complimentary nor Supplimentary", "Both Complimentary and Supplimentary"],
  answer: 1
 },{
  question: "Opposite angles of a parallelogram are always ?",
  options: ["Cant predict", "Bisected", "Congruent", "Complimentary"],
  answer: 2
  }];

 var quesCounter = 0;
 var selectOptions = [];
 var quizSpace = $('#quiz');

 nextQuestion();

 $('#next').click(function ()
  {
     chooseOption();
     if (isNaN(selectOptions[quesCounter]))
     {
        alert('Please select an option !');
     }
```

```
    else
    {
      quesCounter++;
      nextQuestion();
    }
  });

$('#prev').click(function ()
  {
    chooseOption();
    quesCounter--;
    nextQuestion();
  });

function createElement(index)
  {
    var element = $('<div>',{id: 'question'});
    var header = $('<h2>Question No. ' + (index + 1) + ' :</h2>');
    element.append(header);

    var question = $('<p>').append(allQuestions[index].question);
    element.append(question);

    var radio = radioButtons(index);
    element.append(radio);

    return element;
  }
```

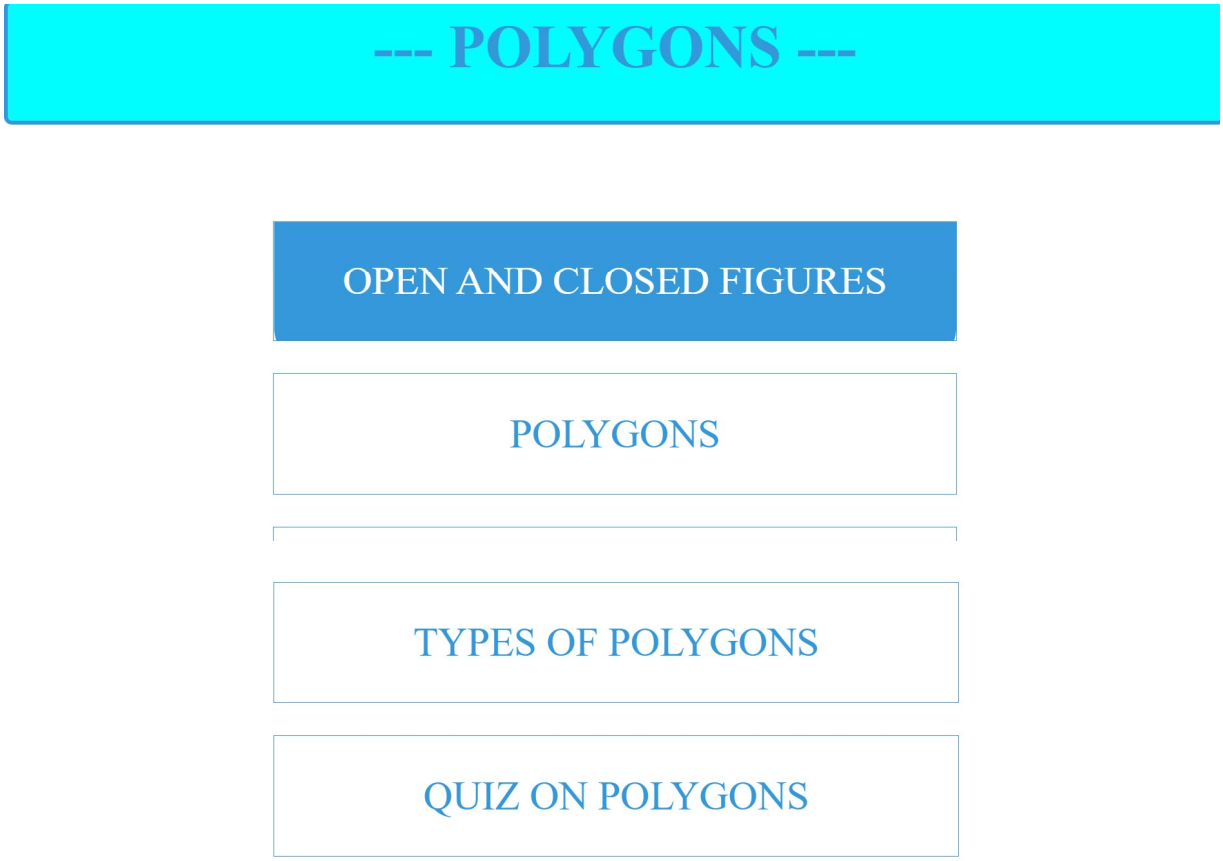
```
function radioButtons(index)
 {
    var radioItems = $('<ul>');
    var item;
    var input = '';
    for (var i = 0; i < allQuestions[index].options.length; i++) {
      item = $('<li>');
      input = '<input type="radio" name="answer" value=' + i + ' />';
      input += allQuestions[index].options[i];
      item.append(input);
      radioItems.append(item);
    }
    return radioItems;
}

function chooseOption()
 {
    selectOptions[quesCounter] = +$('input[name="answer"]:checked').val();
 }

function nextQuestion()
 {
    quizSpace.fadeOut(function()
       {
         $('#question').remove();
         if(quesCounter < allQuestions.length)
          {
             var nextQuestion = createElement(quesCounter);
             quizSpace.append(nextQuestion).fadeIn();
```

```
            if (!(isNaN(selectOptions[quesCounter])))
            {
              $('input[value='+selectOptions[quesCounter]+']').prop('checked', true);
            }
            if(quesCounter === 1)
            {
              $('#prev').show();
            }
            else if(quesCounter === 0)
            {
              $('#prev').hide();
              $('#next').show();
            }
          }
        else
          {
            var scoreRslt = displayResult();
            quizSpace.append(scoreRslt).fadeIn();
            $('#next').hide();
            $('#prev').hide();
          }
    });
 }

function displayResult()
 {
    var score = $('<p>',{id: 'question'});
    var correct = 0;
    for (var i = 0; i < selectOptions.length; i++)
```

```
        {
          if (selectOptions[i] === allQuestions[i].answer)
          {
            correct++;
          }
        }
        score.append('You scored ' + correct + ' out of ' +allQuestions.length);
        return score;
    }
})();
```

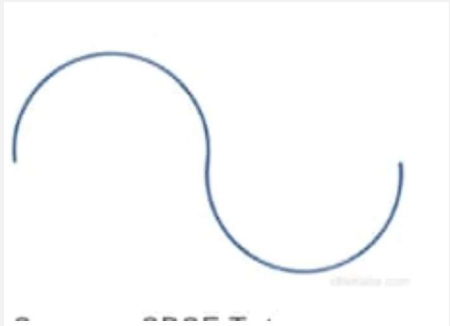
OUTPUT (SCREEN SHOTS)

Home page:-

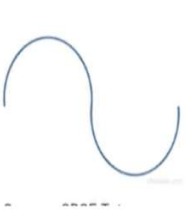


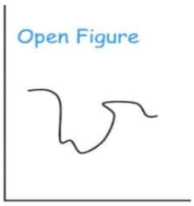
Open-and-closed-figures.html:-

Open and Closed Figures

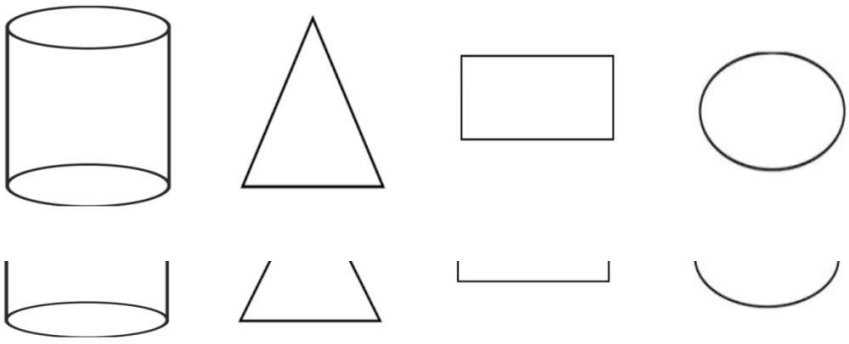


What is an open shape?





CLOSED FIGURES



Animation of open and closed figured

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Polygon.html:-

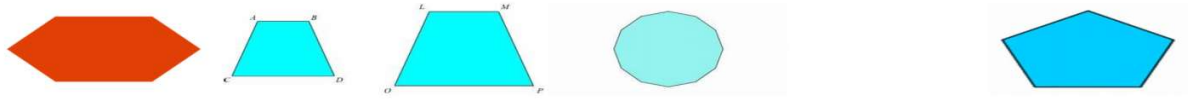
POLYGONS

A figure is a polygon if it is a closed figure,formed with a definite number of straight lines.

The three identifying properties of any polygon are that the polygon is:

- A two-dimensional shape
- Closing in a space (having an interior and exterior)
- Made with straight sides

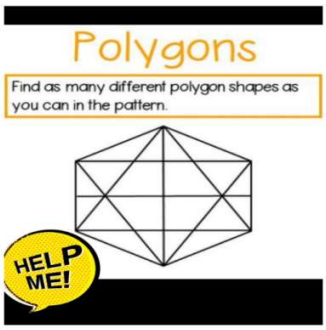
Examples:



DO YOU KNOW??

Polygon comes from Greek.Poly-means "many" -gon means "angle"

FOCUS AND FIND:):)



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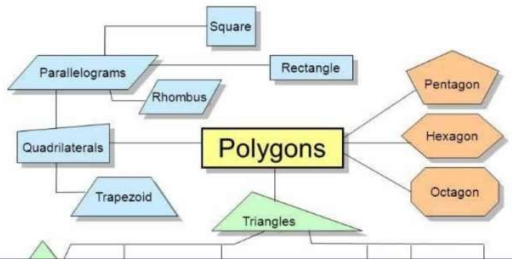
Triangle.html:-

TYPES OF POLYGONS

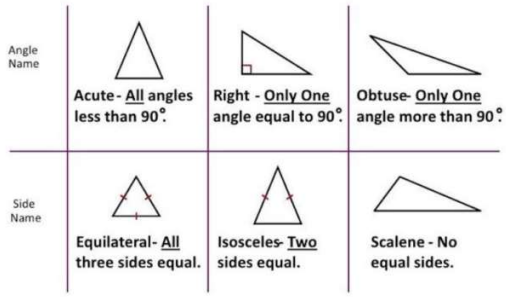
Types of Polygons

Different Types of Polygons

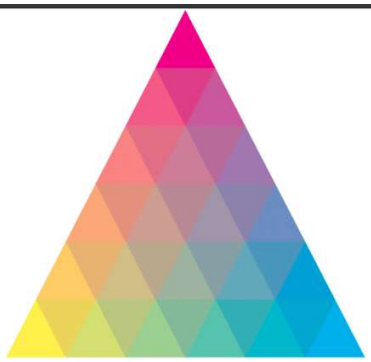


Triangle | Parallelogram

« Previous

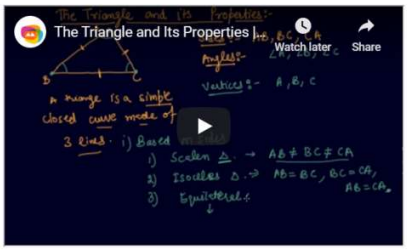


Based on Angles | Based on Sides



Properties | Formulas

Properties of Triangles



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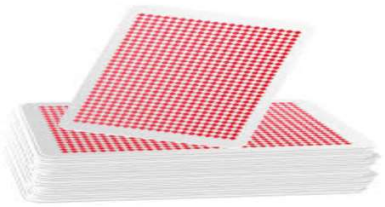
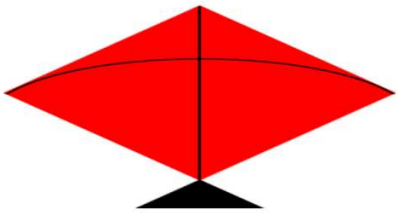
Parallelogram.html

PARLLELOGRAMS

TOPICS

Befor going to parallelograms, lets see "What are Quadrilaterals?"

For exampple , We can find the shape of quadrilaterals in various things around us, like in a chess board , a deck of cards , a kite.

What are properties of a Quadrilateral?

Let's see ,What are Properties of a Quadrilateral :)

Properties of a Quadrilateral:

- A quadrilateral has 4 sides, 4 angles and 4 vertices.
- A quadrilateral can be regular or irregular.
- The sum of all the interior angles of a quadrilateral is 360°.

AC and DB bisect each other

Watch a video to get better understanding on PARALLELOGRAMS

THE END , Hope you understood :)

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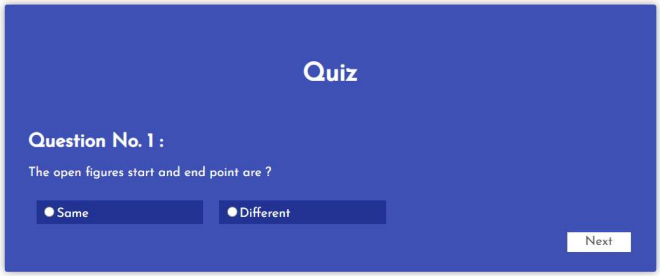
Next QUIZ »

QUIZ.html:-



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Next to go to Home page »

CONCLUSION

We hope this project will help the children to learn the topics in an interesting way. As per technology development the way of teaching concepts to students also it must be change for the sake of children. We think our project will reach to children and it will help them.